What Is Claimed:

1. A method of producing a detectably labeled polypeptide retaining the receptor-binding specificity of unlabeled polypeptide comprising the step of introducing by chemical synthesis a modified moiety at one or more selected amino acid positions in said polypeptide.

2. The method of claim 1 wherein the polypeptide is a chemokine.

3. The method of claim 1 wherein the entire labeled polypeptide is chemically synthesized.

4. The method of claim 1 wherein the labeled polypeptide is formed by linking a recombinantly expressed peptide to a chemically synthesized peptide.

5. The method of claim 1 wherein the modified moiety is a biotinylated amino acid.

6. The method of claim 1 wherein the modified moiety comprises an activatable group.

7. The method of claim 6 wherein the activatable group is an ethan-1,2-diol, a beta-hydroxyamine or a beta-aminothiol.

8. The method of claim 6 wherein the modified moiety is Dpr(Ser), Lys(Ser), or ornithine(Ser).

9. The method of claim 6 further comprising the step of activating the activatable group to an aldehyde or ketone group.

10. The method of claim 9 wherein the polypeptide comprises an amino-terminal residue containing an ethan-1,2-diol, a beta-hydroxyamine or beta-aminothiol group, said method further comprising the steps of protecting the amino-terminal residue by adding a protecting group before the activation step, followed by removing the protecting group after the activation step.

11. The method of claim 10 wherein the protecting group is an Fmoc, CBz or benzyl group.

12. The method of claim 6 further comprising the step of linking the modified moiety to a hydrazine, aminooxy or beta-aminothiol group.

13. The method of claim 1 wherein the modified moiety is linked to a label moiety.

14. The method of claim 13 wherein the label moiety is biotin, avidin, streptavidin, a fluorophore, a lanthanide chelate, a redox couple, a paramagnetic group, a chromophore, or a radioactive label.

15. The method of claim 1 wherein the modified moiety is introduced in the form of a biotinylated Fmoc-protected lysine residue.

16. The method of claim 1 wherein the labeled polypeptide retains substantially the same biological activity as the unlabeled polypeptide.

17. A labeled chemokine produced according to the method of any one of claims 1-16.

18. A labeled chemokine produced according to the method of claim 1 which is a labeled synthetic analogue of human CCL22, CCL2, CCL11, CCL19, CXCL12, CXCL11, CCL1, CCL18 or CXCL8.

19. The labeled chemokine of claim 18 which is selected from the group consisting of human CCL22 modified at position 66, human CCL2 modified at position 75, human CCL11 modified at position 73, human CCL19 modified at position 73, human CXCL12 modified at position 67, , human CXCL8 modified at position 71, human CXCL11 modified at position 71, human CCL1 modified at position 71 and human CCL18 modified at position 66.

20. The labeled chemokine of claim 18 selected from the group consisting of SEQ ID NOS: 6-13.

21. A labeled chemokine retaining substantially the same biological activity as unlabeled chemokine, wherein said labeled chemokine comprises a label moiety at a selected amino acid position that is not the N-terminus of the chemokine, and wherein said labeled chemokine is human CCL22, CCL2, CCL11, CCL19, CXCL12, CXCL11, CCL1, CCL18 or CXCL8.

22. The labeled chemokine of claim 18 wherein the label moiety is within the C-terminal half of the chemokine.

23. The labeled chemokine of any one of claims 18-22 which comprises a label moiety selected from the group consisting of biotin, avidin, streptavidin, fluorophore, lanthanide chelate, redox couple, paramagnetic group, chromophore, and radioactive labels.

24. A labeled polypeptide produced by the method of claim 1.

25. A method of detecting the presence of a receptor that binds to a labeled polypeptide of claim 24 comprising contacting said receptor with said labeled polypeptide and detecting the presence of said labeled polypeptide.

26. A method of detecting the presence of a chemokine receptor comprising contacting said receptor with a labeled chemokine according to any of claims 18-23 and detecting the presence of said labeled chemokine.

27. The method of claim 25 or 26 wherein the receptor is expressed on the surface of a cell.

28. The method of claim 25 or 26 wherein the presence of said receptor is indicative of a cellular subtype.

29. A method of screening for a modulator of the binding of a polypeptide to a receptor comprising the steps of contacting said receptor with a labeled polypeptide according to any of claims 18-24, in the presence and absence of a test compound, and detecting the relative amount of binding in the presence and absence of said test compound.

30. A method of screening for a modulator of receptor activation comprising the steps of contacting said receptor with a labeled polypeptide according to any of claims 18-24, in the presence and absence of a test compound, and detecting the relative amount of receptor activation in the presence and absence of said test compound.

31. The method of claim 29 or 30 wherein the test compound is an inhibitor of receptor binding or receptor activation.

32. A method of sorting cells, comprising the steps of contacting a labeled polypeptide according to any of claims 18-24 with said cells, and separating cells that bind said labeled polypeptide from cells that do not bind said labeled polypeptide.

33. The method of claim 32 wherein the method comprises use of fluorescent-activated cell sorting, magnetic beads, avidin-coupled beads, or streptavidin-coupled beads.

34. A medical imaging method comprising the steps of administering a labeled polypeptide according to any of claims 18-24 to a subject and detecting the location of said labeled polypeptide within the subject.